AMENDMENTS TO THE CLAIMS

Please cancel Claims 65-67. Please amend Claims 1, 20, 36, 46, and 56 as follows:

1. (Currently Amended) A system for use with a computer application configured to respond to first input device data from a first input device, the first input device having a first format and a first range of values which are indicative of the movement of a simulated object in the computer application, the system comprising:

a second input device, different than the first input device, the second input device including one or more sensors configured to measure ~~movement~~ acceleration of an object at intervals and creating second input device data representative of the ~~movement~~ acceleration of the object at intervals, the second input device data having a second format different than the first format and a second range of values different than the first range of values; and

a processor configured to convert the second input device acceleration data into simulated first input device movement data, wherein the processor ~~uses a conversion factor selected to~~ correlates the first and second formats and ranges of values whereby the second range of acceleration values is evaluated at intervals to determine the resulting motion of the object and is then converted into the first range of values corresponding to motion of the simulated object, the simulated first input device data having the first format, the processor further configured to provide the simulated first input device data to the computer application,

wherein the simulated first input device data is substituted in place of the first input device data, thereby simulating the first input device with the second input device.

2. (Original) The system of claim 1, further comprising a transmitter configured to communicate the second input device data to the processor.

3. (Original) The system of claim 2, wherein the transmitter is a transceiver configured to allow two-way communication of data between the second input device and the processor.

4. (Original) The system of claim 3, further comprising sensor firmware configured to recognize that data is being sent from the processor to the second input device.

5. (Original) The system of claim 1, wherein the computer application is a video game.

6. (Original) The system of claim 1, wherein the first input device is one of the following devices: a mouse, a joystick, or a keyboard, and the first input device data is mouse controller input data, joystick controller input data, or keyboard input data.

7. (Original) The system of claim 1, wherein the object is a golf club and the second input device is attached to the golf club.

8. (Original) The system of claim 1, wherein the object is a system user's arm and the second input device is attached to the system user's arm.

9. (Original) The system of claim 1, wherein the one or more sensors are accelerometers configured to measure the acceleration and angle of the object in one or more directions and the second input device data is representative of the acceleration and angle of the object.

10. (Original) The system of claim 9, further comprising sensor firmware, wherein the acceleration of the object is measured directly from the one or more accelerometers and the angle of the object is computed by the sensor firmware.

11. (Original) The system of claim 10, further comprising a transmitter configured to communicate the second input device data to the processor, wherein the second input device additionally sends calibration data for the accelerometers to the processor to facilitate calculation of the angle of the object.

12. (Original) The system of claim 11, wherein the transmitter is a transceiver configured to allow two-way communication of data between the second input device and the processor, and wherein data is sent from the processor to the second input device requesting the calibration data.

13. (Original) The system of claim 1, further comprising a sensor processor configured to assemble the second input device data into data frames to communicate to the processor configured to convert the second input device data.

14. (Original) The system of claim 13, wherein each data frame includes acceleration and angle measurements for the object.

15. (Original) The system of claim 1, wherein the processor further comprises driver software, configured to convert the second input device data into simulated first input device data.

16. (Original) The system of claim 1, wherein the one or more sensors indicate multiple potential positions of the object at a given time and the processor determines in which of multiple potential positions the object is located.

17. (Original) The system of claim 16, wherein the object is a golf club and the multiple potential positions include potential locations of the golf club in multiple quadrants of 90 degrees.

18. (Original) The system of claim 1, wherein the processor is configured to receive a certain amount of first input device data at a given time and the processor divides the simulated first input device data into multiple smaller portions of the certain amount of the simulated first input device data to provide to the computer application.

19. (Original) The system of claim 1, wherein the processor is configured to have a first mode and a second mode, wherein in the first mode a first movement results in a first simulated input resulting in a first movement of a game character, and wherein in the second mode the first movement results in a second simulated input resulting in a second movement of the game character.

20. (Currently Amended) A system for converting movement of an object from a first format having a first range of values into input device data of a second format having a second range of values that a computer application is configured to receive, the system comprising

a sensor unit including:

one or more sensors configured to measure ~~movement~~ acceleration of the object in one or more directions at a plurality of intervals and create [[a]] signals indicative of the acceleration of the object at the plurality of intervals ~~in the first range of values representative of the movement of the object in a first format; and~~

a processor that evaluates the acceleration data at the plurality of intervals and determines a first set of signals in the first range of values representative of the movement of the object in the first format from the acceleration data;

a transmitter configured to communicate the signals in the first format; and

a user station having driver software configured to receive the signals in the first format, convert the signals from the first range of values into simulated input device data having the second format and the second range of values using a conversion factor selected to correlate the first and second formats and ranges of values, and provide the simulated input device data to the computer application;

wherein the simulated input device data is substituted in place of an input device data having the second format.

21. (Original) The system of claim 20, wherein the transmitter is a transceiver configured to allow two-way communication of data between the sensor unit and the user station.

22. (Original) The system of claim 21, wherein the sensor unit further includes sensor firmware configured to recognize that data is being sent from the user station to the sensor unit.

23. (Original) The system of claim 20, wherein the computer application is a video game.

24. (Original) The system of claim 20, wherein the input device is a mouse, and the input device data is mouse controller input data.

25. (Original) The system of claim 20, wherein the object is a golf club and the sensor unit attaches to the golf club.

26. (Original) The system of claim 20, wherein the object is a system user's arm and the sensor unit attaches to the system user's arm.

27. (Original) The system of claim 20, wherein the one or more sensors are accelerometers configured to measure the acceleration and angle of the object in one or more directions and the signal is representative of the acceleration and angle of the object.

28. (Original) The system of claim 27, wherein the sensor unit further includes sensor firmware, wherein the acceleration of the object is measured directly from the one or more accelerometers and the angle of the object is computed by the sensor firmware.

29. (Original) The system of claim 27, wherein the sensor unit additionally sends calibration data for the accelerometers to the driver software to facilitate calculation of the angle of the object.

30. (Original) The system of claim 29, wherein the transmitter is a transceiver configured to allow two-way communication of data between the sensor unit and the user station,

and wherein data is sent from the driver software to the sensor unit requesting the calibration data.

31. (Original) The system of claim 20, wherein the sensor unit further includes a sensor processor configured to assemble second input device data into data frames to communicate to the processor.

32. (Original) The system of claim 31, wherein each data frame includes acceleration and angle measurements for the object.

33. (Original) The system of claim 20, wherein the one or more sensors indicate multiple potential positions of the object at a given time and the driver software determines in which of multiple potential positions the object is located.

34. (Original) The system of claim 33, wherein the object is a golf club and the multiple potential positions include potential locations of the golf club in multiple quadrants of 90 degrees.

35. (Original) The system of claim 20, wherein the driver software is configured to receive a certain amount of input device data at a given time and the driver software divides the simulated input device data into multiple smaller portions of the certain amount of the simulated input device data to provide to the computer application.

36. (Currently Amended) A method of providing input to a computer application configured to receive first input device data having a first format and a first range of values, the method comprising:

measuring ~~movement~~ the acceleration of an object at a plurality of intervals in one or more directions;

evaluating the acceleration data at the plurality of intervals to determine the movement of the object;

creating second input device data representative of the movement of the object from the acceleration data, the second input device data having a second format and a second range different than the first format;

converting the second input device data into simulated first input device data, the simulated first input device data having the first format; and

substituting the simulated first input device data to the computer application in place of the first input device data wherein the first simulated input values have been converted using a conversion factor selected to correlate the first and second formats and ranges of values from the second range of values to the first range of values, thereby simulating the first input device with the second input device.

37. (Original) The method of claim 36, wherein the measuring includes measuring the acceleration and angle of the object in one or more directions and the creating includes creating second input device data representative of the acceleration and angle of the object.

38. (Original) The method of claim 37, wherein the measuring further includes computing the angle of the object using sensor firmware.

39. (Original) The method of claim 38, wherein the creating further includes assembling the measured acceleration and angle data into data frames.

40. (Original) The method of claim 39, wherein each data frame includes acceleration and angle measurements for the object.

41. (Original) The method of claim 36, wherein the computer application is a video game.

42. (Original) The method of claim 36, wherein the first input device data is mouse controller input data.

43. (Original) The method of claim 36, wherein the object is a golf club and the second input device data is representative of the movement of the golf club.

44. (Original) The method of claim 36, further comprising determining in which of multiple potential positions the object is located at a given time.

45. (Original) The method of claim 44, wherein the object is a golf club and the multiple potential positions include potential locations of the golf club in multiple quadrants of 90 degrees.

46. (Currently Amended) A system of providing input to a computer application configured to receive first input device data having a first format and a first range of values, the system comprising:

means for measuring ~~movement~~ acceleration of an object in one or more directions at a plurality of intervals;

means for determining the movement of the object from the acceleration at a plurality of intervals;

means for creating second input device data representative of the movement of the object from the acceleration data, the second input device data having a second format and a second range of values different than the first format and first range of values;

means for converting the second input device data into simulated first input device data using a conversion factor selected to correlate the first and second formats and ranges of values, the simulated first input device data having the first format and range of values; and

means for providing the simulated first input device data to the computer application, wherein the simulated first input device data is substituted in place of the first input device data, thereby simulating the first input device with the second input device.

47. (Original) The system of claim 46, wherein the measuring means further comprises means for measuring the acceleration and angle of the object in one or more directions and the creating means further comprises means for creating second input device data representative of the acceleration and angle of the object.

48. (Original) The system of claim 47, further comprising means for computing the angle of the object.

49. (Original) The system of claim 48, further comprising means for assembling the measured acceleration and angle data into data frames.

50. (Original) The system of claim 49, wherein each data frame includes acceleration and angle measurements for the object.

51. (Original) The system of claim 46, wherein the computer application is a video game.

52. (Original) The system of claim 46, wherein the first input device data is mouse controller input data.

53. (Original) The system of claim 46, wherein the object is a golf club and the second input device data is representative of the movement of the golf club.

54. (Original) The system of claim 46, wherein the second input device data indicates multiple potential positions of the object at a given time, the system further comprising means for determining in which of the multiple potential positions the object is located at the given time.

55. (Original) The system of claim 54, wherein the object is a golf club and the multiple potential positions include potential locations of the golf club in multiple quadrants of 90 degrees, along a swing path, the determining based on the swing path.

56. (Currently Amended) A method for replicating first input device data of a first input device, the first input device data having a first format and a first range, to a computer application, to control movement of a graphical representation of an object, the method comprising:

measuring ~~movement~~ the acceleration of the object with a second input device at a plurality of intervals;

creating an electronic signal representative of the movement of the object by evaluating the acceleration data at intervals to determine the movement of the object, the electronic signal having a second format and second range of values different from the first format and first range of values;

translating the electronic signal into replicated first input device data having the first format and first range of values using a conversion ~~factor~~ selected to correlate the first and second formats and range of values; and

making the replicated first input device data available to the computer application, wherein the replicated first input device data is substituted in place of the first input device data, thereby replicating first input device data from the first input device with replicated first input device data from the second input device.

57. (Original) The method of claim 56, wherein the measuring includes measuring the acceleration and angle of the object in one or more directions and the creating includes creating an electronic signal representative of the acceleration and angle of the object.

58. (Original) The method of claim 57, wherein the measuring includes computing the angle of the object using sensor firmware.

59. (Original) The method of claim 57, wherein creating the electronic signal includes assembling the measured acceleration and angle data into data frames.

60. (Original) The method of claim 56, wherein the object is a golf club and the measuring includes measuring the movement of the golf club.

61. (Original) The method of claim 56, further comprising receiving data from the computer application.

62. (Original) The method of claim 56, wherein the first input device data is mouse controller input data, the mouse controller input data not representative of the movement of the object and wherein the replicated first input device data is replicated mouse controller data representative of the movement of the object.

63. (Original) The method of claim 56, wherein the electronic signal indicates multiple potential positions of the object at a given time, the method further comprising determining in which of the multiple potential positions the object is located at the given time.

64. (Original) The method of claim 63, wherein the object is a golf club and the multiple potential positions include potential locations of the golf club in multiple quadrants of 90 degrees, along a swing path, the determining based on the swing path.

65. (Cancelled)

66. (Cancelled)

67. (Cancelled)